The New Jersey Board of Public Utilities has acknowledged receipt of this report without accepting or rejecting its content.

Recommendation on the Administration of Energy Efficiency and Renewable Energy

For

New Jersey Board of Public Utilities
Docket No EX01070447

Davies Associates Incorporated

April 2002

Executive Summary

The New Jersey Board of Utilities (BPU) is investing $1 billion of consumers' money in Energy Efficiency and Renewable Energy (EE&RE) programs. The BPU has articulated objectives that it wants these programs to achieve.

Our review indicates that these programs are unlikely to achieve the BPU's stated objectives although they may achieve other objectives. Thus, we feel much of the $1 billion ratepayer investment in the CRA is at risk.

The good news is this can be avoided by timely action on the part of the BPU and the Collaborative:

BPU actions include:

- Aligning its regulations to better support the CRA objectives,
- Devoting more resources to the CRA,
- Legitimizing the Collaborative,
- Using a "Stick and Carrot" approach to CRA administration to align interests of the stakeholders by setting up a Fund for the SBC programs and incentive payments for the utilities,
- Consider assuming administration of the RE programs

Collaborative Actions

- Refocusing its programs more closely on achieving the CRA objectives,
- Improving the accounting for administrative costs.

Contents

The New Jersey Board of Public Utilities (BPU or Board) is determining the future administration of the New Jersey CRA Energy Efficiency & Renewable Energy (EE&RE) programs.

The Board's objectives, in order of importance to the achievement of the CRA objectives, are to:

Decide the future method of administering EE&RE programs for the next six years.
Determine if the Board's minimum administrative requirements are being met.
Determine if the cost of the existing administration is appropriate.

The Board selected Davies Associates Incorporated (DAI) to address these objectives and to recommend the future method of administering the Energy Efficiency and Renewable Energy (EE&RE) Programs.

The reason administrative costs are the least important objective is simply that there is nothing sadder than doing the wrong thing well. If the programs are ineffective the administrative costs are not material. Thus, one of the most important things to do is assess whether the existing programs will accomplish the CRA objectives. We do this by:

- Articulating the CRA objectives.
- Determining the critical success factors (CSFs) for implementing the objectives. CSFs are those factors which are collectively necessary and sufficient and that if performed well the objective will be achieved.
- Examining and understanding the Collaborative's programs approved by the BPU.
- Determining if the programs satisfy / address the CSFs.

To optimize the benefits to New Jersey first we selected the preferred method of administration from amongst the four possible methods of future administration.

We selected the method based upon other states' experience, fit with New Jersey specific general criteria, and satisfaction of most stakeholder interests. The general criteria transcend the purely organizational criteria of the entity which is administering the CRA, i.e. effectiveness and efficiency in implementing CRA objectives. General criteria are concerned with political acceptability, leveling of the playing field for all participants, conflict of interest, and public perceptions.

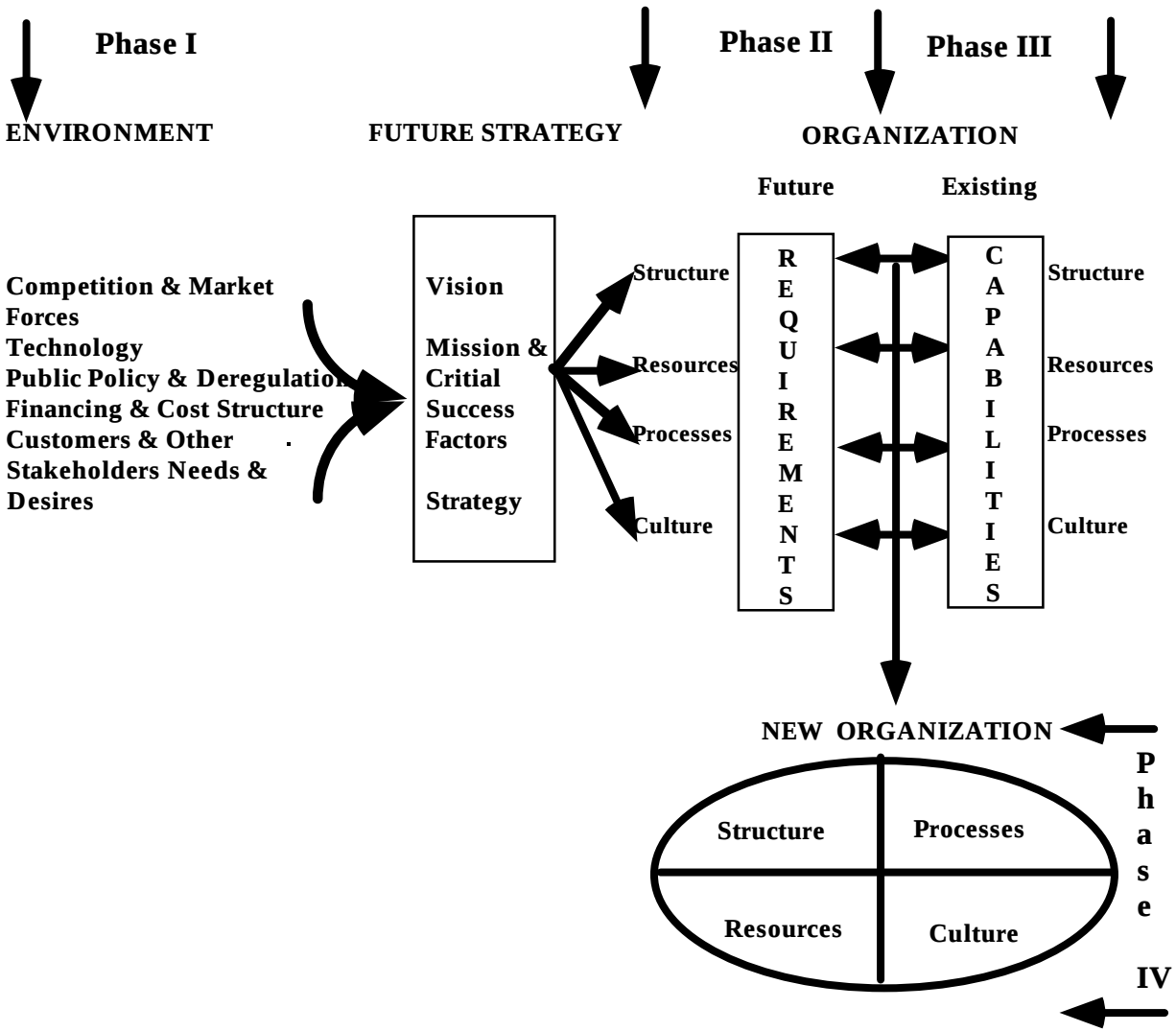
The stakeholders include New Jersey Consumers, Utilities, Industry Groups, the Consumer's Advocate, Environmental Groups, the BPU, and New Jersey Legislator's. These stakeholders outlined their concerns during the interviews DAI conducted, as follows:

- New Jersey consumers want value for their investment in EE&RE (DAI assumption).
- The utilities want to control the implementation of the EE&RE / CRA program and the interface with their customers.
- The Consumer Advocate wants an ISA, other than the utilities, to operate the CRA.
- Some industry participants want an ISA, other than the utilities, to operate the RE portion of the CRA, while others are happy with the utilities operating the RE portion of the CRA
- ESCOs want to participate in the CRA.
- Environmental groups want to focus the CRA on maximizing environmental impacts.
- The BPU, NJ DEP and Legislators want to achieve the CRA / EDECA objectives.

Once we select the method of future administration we design an "ideal" organization for effectiveness and efficiency, using it for a new organization or to modify the existing organization's capabilities. This optimizes the administration for the BPU's interests.


DAI
Davies Associates,Inc

Conceptual Approach Diagram



(This page faces page 7)

And then designed an "ideal" organization—structure, resources, processes and culture—for this method to most effectively and efficiently implement the BPU strategy for achieving the Mission & Objectives within the likely environment. (See conceptual approach on the facing page.)

The mission for the "ideal" organization is to achieve the BPU's CRA objectives. We thus need to know the:

- Board's objectives that are to be achieved by the CRA EE&RE programs,
- Strategy the Board has decided to use to achieve the objectives, and
- Existing and likely future conditions in New Jersey in which the objectives and strategy will have to be implemented.

We use these to drive the design of the organization's four parts:

- **Structure** includes the organization's membership, its relationship to the various external entities represented, its internal structure comprising the Board of Directors, the management, committees, staff, etc. and their relationships, the responsibilities and quality of leadership, and the distribution of power and influence, both formally and informally.
- **Resources** include the people and their background and level of expertise, the training they are provided, the availability of staff support and other support systems to all participants, the access to information, the use of consultants, facilitators, and other outside persons, and the availability of funding.
- **Processes** include the decision-making rules, the criteria for evaluating and adopting programs, the manner in which innovative ideas are solicited, received, promoted, evaluated, adopted, and implemented, the method by which activities are shaped and guided, all of the written and unwritten procedures for getting things done, and the motivation and reward systems.
- **Culture** includes attitudes, beliefs, values, expectations, motivations, management styles, and interpersonal styles, and the degree to which these differences are effectively accommodated.

We determined if the utilities are meeting the Board's minimum administrative requirements by examining each utility's and the Collaborative's EE&RE organization, their reports and affiliated relations audits.

There are seven issues to be addressed in assessing if the Collaborative and the utilities are meeting the BPU's minimum administrative standards. Five of the seven can be addressed by reviewing the following reports and programs:

- Affiliated relations audit and/or statements from internal and outside counsel demonstrate adherence to the Board's affiliate relations standards;
- Program reports demonstrate the extent to which each utility and the Collaborative are meeting each program's agreed minimum performance requirements and whether the utilities are filing timely program plan updates and evaluation reports;
- Each utility's programs and those of the Collaborative illustrate the extent to which utilities are maintaining statewide consistency in program design and implementation.

The other two issues require meetings with the each Utility to determine the extent to which each utility has:

- Properly and adequately staffed and implemented the programs, and
- Incorporated the results of program evaluations in implementation plans in a timely fashion

We examined the administrative costs in a four step process.

Step 1 - we identified the definitions of the Administrative and program costs

Step 2 - we reviewed the actual costs at each stage of the program cycle, i.e. design, implementation, evaluation, etc.

Step 3 – we collected costs from similar programs, in other states, at each stage of the program cycle, and

Step 4 - we compared the actual costs experienced by each utility to those of the other New Jersey utilities and to those experienced in other states.

Section I - Objectives & Methodology.

Section II - Administrative Costs **(see also appendix A)**

Section III – Organization & Future Administration **(see also Appendices B, C and D)**

- **Section III-1 – Lessons learned from other states.**
- **Section III-2 – Selecting among organizational methods.**
- **Section III-3 – Designing the "ideal" organization.**

Section IV – Collaborative Performance **(see also Appendix E)**

Section V - Recommendations.

We had to change our methodology for reviewing the appropriateness of the administrative costs to fit the available information.

We intended to

- Identify the definitions of the EE&RE administration and the administrative program costs.
- Review the actual costs at each stage of the program cycle, i.e. design, implementation, evaluation, etc.
- Collect costs from similar programs, in other states, at each stage of the program cycle, and
- Compare the actual costs experienced by each utility to those of the other New Jersey utilities and to those experienced in other states.

But the CRA EE&RE programs are too new to provide a basis for determining if the administrative costs are appropriate. (The EE&RE programs have been in operation since May 9, 2001. Some of them were previously DSM programs that were brought into the CRA program. As such, they are too new to provide a reliable indication of the administrative costs, which are usually front end loaded.) So we decided to use the administrative costs of the DSM programs, which had been in operation for over a decade, as a proxy.

After reviewing the DSM programs, we focused on the CRA programs to ensure that there was a definition of administrative costs and that a system for collecting and reporting such costs exists, is adequate and is used consistently. On this latter point we requested the BPU's financial audit group to audit each utility's administrative cost accounting to ensure that there is consistency of use.

We found from our literature search and over 90 interviews with regulators, staff and participants in other state programs that there is no reliable and consistent reporting of administrative programs costs. So, although other states have set levels for administrative costs, they have no way of telling if these levels are being exceeded.

The Analysis of the DSM programs revealed that the definition of, and accounting for, DSM administrative costs was inadequate and did not allow a judgement as to the appropriateness of DSM administrative costs.

In conjunction with the BPU financial audit department, which conducted an extensive audit of the DSM administrative costs, we:

- Confirmed that while many DSM administrative costs appeared to be reasonable, it was difficult to firstly, obtain the budgeted and actual costs that had been charged to administration, and secondly, there were inconsistencies in their application, if they were available.
- Found that administration costs for DSM programs ranged from 0.4% to 27%. The BPU's guideline is now 5%. The utilities claim that the BPU has not set a guideline.
- Were unable to determine what a fair percentage for administrative costs by each program should have been, or what an overall administrative cost should have been on average, since DSM programs (and now CRA programs) differ widely by type (e.g. Energy Star and Renewables), and by phase (e.g. start up, information dissemination, heavy initial rebates, etc). However, had there been consistent identification and allocation of administrative costs, there should have been value in comparing such costs by time period, program, and by utility.
- Determine that the BPU definition of administrative costs for DSM programs was terse, at too high a level and was interpreted by each utility in their own way. It requires reexamination in the light of the usage by the Collaborative in expanding it and in properly identifying administrative costs that are outsourced but currently reported as contracted out operational costs.
- Found that the BPU did not undertake any regular monitoring of such administrative costs for DSM programs, consequently, no further disagregation of the high level definition was possible, nor were inconsistencies identified between utilities, nor were any comparisons made between similar DSM programs and the percentage each utility had incurred for administrative costs, either on a utility-wide basis or on a time / phase of the program basis. Thus the DSM program post-audits were inconclusive.

Compared to allowed administrative costs in other states, New Jersey's administrative costs appear reasonable, but the idea of obtaining an estimate of the average administrative costs among the states for the SBC programs is meaningless.

The most widely used administrative structure (employed in nine of the 23 states with SBC programs) is state agency administration, and any estimate of administrative costs by a state agency is meaningless. The reason is that these agencies are unable to precisely account for time in cases where direct and administrative staff resources are shared between departments. The problem is further compounded by differences in how departments determine if shared time should be charged as a direct cost item or to the general administration budget.

Most of the states have no precise estimate of "administrative costs" and the available empirical estimates of actual costs are highly variable. For example, in Connecticut, the legislation specifies that administrative costs cannot exceed five percent; in Wisconsin, no decision has yet been made as to the allowable level of administrative costs; in Vermont, administrative costs for 2000 were reported to total 27 percent; in Oregon, administrative costs are capped at 20 percent; In New York, administrative costs are capped at seven percent, with an additional two percent allocated for evaluation; in Texas, administrative costs cannot exceed five percent; in Montana, administrative costs in 2000 were reported as totaling seven percent; and so forth.

In addition, the nature of the programs inhibits their use as a measure of cost effectiveness:

- The programs differ so widely in terms of definition, scope, coverage, technology, program type, duration, funding, and other determining characteristics that any singe estimate is misleading.
- The states define different program aspects as "administration," including, in some cases, evaluation, analysis, planning, some marketing efforts, etc.
- Third, most states' programs are just getting started, and this distorts any estimate of administrative costs -- one would expect the administrative costs (however defined) of new initiatives to be higher at the beginning.

- The states sometimes contract out some of the "administrative" functions, thus distorting administrative cost estimates.

The Collaborative has a system for collecting and reporting administrative costs, which appear to be around 7% plus as yet unidentified outsourced administrative costs. In other states administrative costs varied between 2.5% and 45%.

The Collaborative has brought some consistency of reporting of administrative costs to CRA programs, however, further analysis (now being undertaken by the BPU) is needed to ensure that each utility is consistently reporting such expenses within the definition from period to period. The BPU financial audit group is not monitoring CRA administrative costs, which it should do on an annual basis. To assist in this the Division of Audits should receive copies of the Collaborative reports.

A further sub-definition of administrative costs is not available by cost centers / chart of accounts, and outsourced administrative costs are separated from other contracted out program operational costs. (In the Collaborative's report for CRA administrative costs, designated as Report RA2T, contracted out costs include those which are also administrative costs and should more properly be include as administrative costs, contracted out. Some utilities for instance, undertake the process of energy rebate processing and check issuing, in-house, while others use contractors for this work.)

There were no variances from budget to actual costs computed, nor performance indicators of efficiency or level of service set up, which would complement financial administration costs and show how each program was performing in regard to efficiency and economy. (Note: this is aside from measures of program effectiveness, which are described in other Chapters).

The latest Collaborative reports show administrative costs as 6.6% of the $57 million spent on programs. If we now include the estimated administrative portion of the contracted out costs ($19 million) this percentage will rise. This is above the BPU targeted figure of 5%, but is a reasonable amount for the work undertaken and compares favorably with the amounts allowed in other states.

To meet future organization/administrative requirements, the definition of administrative costs needs amending and the cost accounting procedures need to be improved and used to measure the efficiency of program implementation.

Include all the administrative cost portion of contracted out costs as Administrative costs and not as contracted out costs.

Develop a common activity based costing system, using the revised administrative cost definitions for cost and responsibility centers, which can automatically produce the revised RA2T report. (Three of the utilities use SAP financial management software that can easily accommodate an activity based accounting system. The other utilities should map their cost centers to this report.)

Set-up key performance indicators for efficiency, i.e. for unit cost efficiency, for quality, timeliness and other levels of service for each type of program. These will complement the effectiveness measures demonstrating the achievement of the overall goal of market transformation.

Conduct regular (at least quarterly) monitoring of the performance of the CRA programs, such that significant variances from the Budget are explained, and that the other key performance indicators are computed and significant variances explained. Thus the monitoring of economy and efficiency will complement the monitoring of program outcomes and effectiveness.

Conduct regular audits and reviews on an individual utility and rolled up basis, to ensure compliance to the definition of administrative costs, and that there is consistency of data and cost collection and reporting, as well as safekeeping and availability of historical accounting and operational records since the start of the CRA programs.

Monitor other States and share information where there are similar types of programs, to ensure that New Jersey's EE&RE programs are in the forefront or in line with these.

The BPU should consider establishing a fund to hold all CRA monies, and the utilities and/or Collaborative could be paid from this fund subject to meeting objectives and satisfactory accounting.

Under this mechanism the utilities would collect the CRA EE&RE money, which would be deposited in a fund controlled by the BPU. Utilities would claim money from the fund by demonstrating that they had implemented authorized programs, met the goals and objectives, and provided detailed support for the actual and budgeted program and administrative costs.

Such a mechanism:

- Transfers the money to the control of the BPU, allowing the BPU to direct the type of programs upon which the money is spent.
- Avoids the utilities spending the money only on programs, which further their corporate interest.
- Mutes the utility conflict of interest argument, thus achieving the same benefits as an ISA without the associated cost.
- Allows the BPU to be proactive instead of reactive in the process of auditing the administrative costs of the Collaborative and the utilities.

(Currently, utilities collect the money they spend on BPU approved programs directly from consumers in rates when authorized to do so by the BPU.)


DAI
Davies Associates,Inc

Section I - Objectives & Methodology.

Section II - Administrative Costs **(see also Appendix A)**

Section III – Organization & Future Administration **(see also Appendices B, C and D)**

- **Section III-1 – Lessons learned from other states.**
- **Section III-2 – Selecting among organizational methods.**
- **Section III-3 – Designing the "ideal" organization.**

Section IV – Collaborative Performance **(see also Appendix E)**

Section V - Recommendations.

We researched the experiences of the 23 states that have mandated SBC EE&RE programs and assessed the impact of restructuring by reviewing the status of mandated public benefits programs in 26 states that are restructuring

Specifically, for the 23 states with SBC EE&RE programs, we:

- Interviewed staff from the relevant PUCs, state agencies, utilities, ISAs, and industry. Environmental, and EE&RE interest groups.
- Reviewed and analyzed the relevant state on-line databases.
- Examined legislation and proceedings.
- Reviewed the existing literature.

We found that, at present, 26 states are in various states of implementing restructuring, and that these can be grouped into the following categories:

- A restructuring law has been passed in 24 states: Arizona,[1] Arkansas, California, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Michigan, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Texas, Virginia, and West Virginia.[2]
- In one state -- New York, a PSC restructuring order has been issued without legislation and the utilities have filed settlement agreements describing how restructuring will be implemented

[1]In Arizona, restructuring legislation was passed for public electric utilities only; the investor-owned utilities were deregulated through Commission orders that were codified into law.

[2]In many of these states, restructuring has already been fully or partially implemented. However, in some states that passed restructuring with a longer timetable for implementation, there currently are discussions regarding a possible delay or reversal of the move toward restructuring.

- In two states -- Vermont and Wisconsin, there are no final restructuring laws or commission orders, but there has been state legislation to implement a statewide public benefits program
- In the remaining 24 states, restructuring is being assessed and debated.

Much lip service is given to the importance of goals such as market transformation, environmental enhancement, renewable energy, etc., but the actual primary goal in most of the states is to lower rates.

The recent California energy crisis was a severe setback for utility restructuring and SBC programs in many of the states, and the fallout from California is yet to be fully felt.

The states are divided over whether restructuring and consumer choice will increase or decrease rates:

- Most states (at least prior to the problems in California) assumed that restructuring would reduce rates.
- A number of states mandated rate decreases.
- On the other hand, even before California, some states, such as Maine and Wisconsin, feared that restructuring would increase rates.
- In Connecticut, the expressed hope is that restructuring will at least reduce the rate of increase.
- The Pennsylvania law required the PUC to set a rate cap, not a reduction.

Market transformation is a desired, articulated goal in most of the states, that is, at best, imperfectly understood.

Many of the states' program staff feel that market transformation (MT) is too sophisticated a concept for them, and they prefer concentrating instead on straightforward legacy programs such as EE&RE education, outreach, green energy, etc. which they understand. Furthermore, they feel that they can more easily measure the results of traditional programs such as rebates and direct buys, and, importantly, can demonstrate the desired quantitative results. They then use these programs as evidence of their desire to transform markets. They fear that the results of MT programs are long term (which is true), whereas they are concerned with immediate and short-term results upon which their superiors and regulators judge them. Finally, some of them admit that they simply do not know what is meant by market transformation.

Not surprisingly, given the lack of knowledge, most states do not have comprehensive, integrated market transformation programs and there is little attempt to integrate and coordinate other relevant state programs relating to EE&RE. Even in states with active SBC EE&RE programs, there are only uncoordinated and haphazard attempts to enact supporting state policies such as tax incentives, government buys, R&D programs, direct subsidies, demonstration programs, property and sales tax waivers, green power programs, interconnect mandates, net metering, etc.

For example:

- Only 14 of the 23 states have net meting legislation.
- Only ten of the states have EE&RE R&D programs.
- Only 11 of the states have a renewable portfolio standard.
- The levels of the SBCs vary enormously, from 0.25 mills / kWh to 4.5 mills / kWh.

Net metering is of critical importance to the success of RE programs, but we found that the states do not fully appreciate this.

Fourteen states have net metering requirements: Connecticut, Delaware, D.C., Maine, Massachusetts, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Rhode Island, and Vermont.

Eight states have no net metering: Arizona, California, Illinois, Montana, Pennsylvania, Texas, West Virginia, and Wisconsin -- but all of these states, except for Texas and West Virginia, have SBC RE programs.

One state, Maryland, has net metering only for rooftop photovoltaic (PV).

Further, the states with net metering have different rules concerning the cap on volume with respect to total utility sales, qualifying facilities and technologies, maximum facility size, etc.

In most states, low-income (LI) programs are not administered by utilities, ISAs, or hybrids or collaboratives; rather they are administered by the appropriate state agencies having experience with such programs and the relevant target populations.

For example:

- In Delaware, LI programs are being administered by the state Department of Health and Human Services.
- In the District of Columbia, LI programs are being administered by the Office of Energy.
- In Illinois, LI programs are being administered by the state Department of Commerce and Community Affairs.
- In Maryland, LI programs are being administered by the state Department of Human Resources.
- In Montana, LI programs are being administered by the state Department of Public Health and Human Services.
- In New Hampshire, LI programs are being administered by the state's Community Action Agencies.
- In Ohio, LI programs are being administered by the state Director of Development.
- In Oregon, LI programs are being administered by the state Housing and Community Services Department.
- In West Virginia, LI programs are being administered by the Governor's Office of Economic Opportunity.
- In Wisconsin, the state Department of Administration is contracting with community action agencies, nonprofit organizations, and local governments to administer the LI programs.

There is widespread concern over having utilities administer renewable energy programs.

Opinions appear mixed, but utilities' potential conflict of interest and their less-than-stellar historical record with these programs in other states causes great concern.

Beyond this, many states have widespread problems in the implementation of RE programs, such as:

- Some states do not have any specific RE programs.
- The definition of what constitutes an RE program differs widely in the states that do have RE programs.
- Some RE programs include things such as used tires (California and Maine) and solid wastes (a number of states) that environmentalists and RE advocates abhor.
- Fuel cells are included as RE programs in many states, but these may not even be RE programs.
- Illinois includes a Coal Technology Development Fund along with its SBC EE&RE programs

Funding concerns are key in every state: first the mechanism, sources and amount of the funding, and second, the duration of the funding requirement.

The most common approach to funding EE&RE public benefit programs is a "system benefit charge," a non-by passable, "competitively neutral" charge on the distribution service, usually expressed in mills per kWh or per Therm. Fifteen states have adopted this type of approach. However, three states have used an approach where the funding is either embedded in rates or provided through a flat monthly fee, rather than a per kWh or per Therm charge, and two states have adopted unique approaches:

- Illinois has established a "Clean Energy Trust Fund" (funded with $250 million from Commonwealth Edison as part of an agreement on restructuring-related issues) that will be used, in part, for EE&RE programs.
- Texas, unlike other states, did not establish a funding amount; rather, it set a requirement for utilities to achieve energy savings each year equivalent to 10 percent of projected load growth.

One issue is whether all customers should pay to support public benefits programs or if some customers should be excluded. While the vast majority of states have required their EE&RE public benefit funding to be derived from an equal per kWh and equivalent therm charge applied to all customers, three states have included some preferential treatment for very large industrial customers (typically those in excess of 1 MW of demand) in their restructuring legislation:

- Montana provides for a smaller per kWh charge for customers of 1 MW demand or greater, and also allows for "credits" against that charge for self-spending on EE and RE projects.
- Oregon allows a similar partial credit for large customer (>1 MW) documented self-spending, and also has a special discounted per kWh charge for aluminum smelters.
- Vermont has a "C&I Customer Credit Program," whereby large business customers that meet several conditions can receive a refund of up to 70 percent of the cost they would otherwise pay to support the statewide energy efficiency utility. This is based on the amount of

documented “qualified” expenditures they make on energy efficiency improvements in their facilities.

Funding concerns are key in every state: first the mechanism, sources and amount of the funding, and second, the duration of the funding requirement.

An important public policy question relates to how the level of funding for EE&RE programs under these new public benefit approaches compares to historical utility DSM, EE, and RE spending. We found that states have tended to set their new EE and RE funding at a level comparable to recent experience, but significantly below peak utility DSM/EE spending levels of the early to mid-1990s.

Another key issue regarding public benefit EE&RE policies in the different states has been the length of time for which funding has been required, and we found that there has been a large degree of variability:

- Eleven states do not set any specific duration for the funding requirement, leaving it essentially open-ended.
- Four states set a 10-year funding period.
- Six states specify five years.
- Two states set four years.
- Two states set three years.

Most of the states that set a specific time duration indicated that some type of review and determination of future policy would occur as the end of the initial period approached. This process has already begun in several states.

Because restructuring endangers public benefits programs the states passed enabling funding legislation or issued regulatory decisions.

The risk that the "public benefit" of a regulated electricity system would be lost in the move to competition has been widely recognized in those states that are implementing electric restructuring. Most of these states have adopted policies to support public-benefit programs, and funding levels for the programs range from a low of 0.25 mills / kWh to a high of over 4 mills / kWh.

Thus far, 23 states have addressed public-benefit programs in legislation and / or regulatory decisions: Arizona, California, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Vermont, West Virginia, and Wisconsin.

Of the 25 states with restructuring legislation or regulatory orders requiring restructuring, 18 have created explicit provisions for supporting energy efficiency programs as a part of their restructuring process, and two states have passed legislation providing for public-benefits funding to support energy efficiency, even though they have not issued orders for full restructuring:

- The 18 states with public-benefits, energy efficiency programs under restructuring that are funded by law or commission order are: Arizona, California, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and Texas.
- Vermont and Wisconsin have not restructured but have passed statewide public-benefits legislation to fund energy efficiency programs.
- Nevada provides various means of unfunded support for public-benefit energy efficiency programs.
- Michigan, Oklahoma, and Virginia are considering the implementation of public benefits programs.

States are using energy R&D, renewable energy programs, and disclosure requirements (fuel mix, emissions, etc.) in their policy making.

Public-benefit energy R&D has external benefits that cannot be captured by individual firms, and most of the policy debates regarding public benefit energy R&D and utility restructuring focus on EE, RE, and environmental quality. Thus far, ten states have addressed public-benefit energy R&D in utility restructuring decisions and are in various stages of enacting and implementing public-benefit energy R&D provisions:

- States with public-benefit energy R&D programs funded by state legislation or commission order (including R&D addressed within other public-benefit programs such as EE&RE): Arizona, California, Connecticut, Massachusetts, Montana, New York, Rhode Island, and Wisconsin.
- States providing various means of unfunded support for public-benefit energy R&D: Maine and Nevada.

Renewable energy is being encourage in many states in order to accomplish a variety of energy and environmental objectives, and we identified two generic types of state-sponsored renewable energy activities:

- Renewable energy programs generally provide direct funding for RE projects and/or credits or refunds to customers for the purchase or use of existing or new renewable technologies. Sixteen states provide funding to support renewable energy programs in their restructuring plans, and are in various stages of enacting and implementing RE provisions: Arizona, California, Connecticut, Delaware, District of Columbia, Illinois, Maryland, Massachusetts, Montana, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island. and Wisconsin.
- Renewable portfolio standards specify that a required percentage of electricity provided by a supplier be based on renewable energy. The RPS is usually included in a state's electric restructuring legislation, but not funded through the SBC. Ten states include a renewable portfolio standard in their legislation, and are in various stages of enacting and implementing their RPS Arizona, Connecticut, District of Columbia, Maine, Massachusetts, Nevada, New Jersey, Pennsylvania, Texas, and Wisconsin.

States are using energy R&D, energy efficiency programs, renewable energy, and disclosure requirements (fuel mix, emissions, etc.) in their policy making.

Disclosure issues are concerned with giving customers the necessary information to make informed choices about the electricity they are purchasing in a competitive market, and disclosure includes reporting attributes of electricity generation and pricing including fuel mix, fuel emissions, kilowatt-hour price, price volatility, and contract terms.

Twenty-six states have either already acted to require disclosure or are considering such a policy: Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Illinois, Maine, Maryland, Massachusetts, Michigan, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Vermont, and West Virginia.

The states restructuring are protecting low-income programs in their policymaking and most do not use the utilities to implement the programs.

In a deregulated environment, low-income customers may be in greater jeopardy than under regulation, and the most common strategy for low-income program support has been using a system benefits charge to fund low-income energy efficiency and bill assistance programs. In addition, "supplier of last resort" and other rules regarding consumer protection have been developed as protections for low-income customers in response to electric restructuring:

- Twenty-two states implementing electric utility restructuring have included low-income provisions: Arizona, California, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Vermont, West Virginia, and Wisconsin.

- Michigan, Nevada, Oklahoma, and Virginia are considering the establishment of such programs.

As noted, in most states, LI programs are not administered by utilities, ISAs, or hybrids or collaboratives; rather they are administered by the appropriate state agencies having experience with such programs and the relevant target populations.

Other states' experience provides important lessons in policy formulation, program design, and program implementation.

The major lessons learned by other states with SBC-funded EE&RE programs include the following.

Policy formulation:

- **It is useful to form coalitions,** especially including business interests. It is especially important to include businesses that are directly involved in EE&RE program delivery (contractors, suppliers, etc.) to emphasize the positive impact on jobs and local economic activity.
- **It is important to find a legislative and/or regulatory "champion"** for the policy -- someone who will take ownership and work within the system to ensure that the policy is fully implemented.
- **The debate must not focus primarily on costs.** There is a tendency to focus inordinately on minimizing rates, thus ignoring the economic and other benefits of EE&RE programs.
- **Every state is unique,** and there is no single solution for all situations in all states.
- **Existing assets should be utilized,** and if some approaches and organizations have worked well, they should be incorporated into the policy.

Program Design the Approach:

- **A dedicated fund** should be established to support public benefits, rather than relying on general revenues or annual appropriations. Dedicated funding has been crucial in most states.
- **Programs take time to implement** properly, especially market transformation, and a 3- or 4-year time frame for public benefits funding may not be sufficient.
- **Central statewide administration**, or at least close coordination among different utilities in a state, is crucial for market transformation strategies.
- **Regional (in addition to intra-state) cooperation** for certain strategies must be considered, especially for programs like market transformation and renewable portfolio standards.

- **An infrastructure and RE industry** must be developed if renewable mandates are to succeed.

Other states' experiences provide important lessons in policy formulation, program design, and program implementation.

Implementation:

- **If programs are to be administered by an ISA rather than the utilities,** it is important to select an organization with experience and demonstrated capability in this field. This will be much quicker and more effective than trying to create a new organization.
- **In delivering programs, advantage** should be taken of existing experienced delivery channels, while still allowing some opportunity for testing creative new approaches.
- **All available program funds should not be committed at the outset**; some flexibility should be retained to direct funds to worthwhile program ideas that emerge as experience unfolds.
- **Use of multiparty collaboratives** for program guidance and oversight can be an effective mechanism for avoiding litigation and other challenges and delays, and can be done in a reasonably efficient manner.
- "**Bureaucratic roadblocks" should be avoided**. In most states, the legislature can create policy, but it is up to other agencies of government to implement that policy. In several states, the restructuring legislation contains favorable language "authorizing" an SBC for EE&RE programs, but non-supportive regulatory commissions have not yet approved any funding.
- **The "standard cost trap" should be avoided.** The new EE&RE charges must be set at a level high enough to assure sufficient funds for new programs as well as covering the cost obligations from prior programs. Several states have discovered that their new SBCs will be largely committed to pay for prior DSM/EE program costs, rather than paying for those prior obligated costs in some other manner, such as including them in stranded cost recovery.
- "**Procedural gridlock" should be avoided.** The complexity of overlapping rules and procedural requirements can impede implementation. Several states have experienced administrative gridlock, where complex processes and lack of coordination among different government entities have hindered statewide administration of the SBC EE&RE programs.

Section III – Organization & Future Administration (see also Appendices B, C and D)

Section III-1 – Lessons learned from other states.

Section III-2 – Selecting among organizational methods.

Section III-3 – Designing the "ideal" organization.

There are four alternative methods for administering SBC EE&RE programs, and different states use different approaches

The 23 states that have mandated SBC EE&RE programs as part of their restructuring use one of four administrative models: Utility administration with regulatory oversight, administration by a state agency, administration by a statewide or regional nonprofit institution -- an independent statewide administrator (ISA), or a hybrid combination of the above options. Specifically:

- Four states are having individual utilities administer their EE/RE programs (although usually with some type of collaborative advisory process): Maine, Maryland, New Hampshire, and Pennsylvania.
- Four states have chosen an ISA: Arizona, Oregon, Vermont, and Wisconsin.
- Nine use a state government agency: Delaware, District of Columbia, Illinois, Montana, New Mexico, New York, Ohio, Texas, and West Virginia.
- Four states utilize a "hybrid" approach: California, Connecticut, Massachusetts, and Rhode Island.
- Two states are in the process of determining the administrative structure for their SBCs: Nevada and New Jersey.

There is relatively little quantifiable information as to the long term effectiveness and efficiency of these different organizational structures, primarily due to the brevity of their existence.

There are successful examples of all four structures, but few metrics as to the effectiveness or efficiency.

Most states' programs are nascent and consequently do not have the performance experience on which to determine the effectiveness and efficiency of the organizational structure.

The reasons for selecting a particular method of organization and administration are state specific, and include factors such as the state's experience, the legislation, the relative strengths of the groups at the negotiating table, and expediency.

Evidence from the individual states indicates that all four of the administrative structures can be successful.

However, there is no a priori best method of organization, and each state situation is unique.

Review of the experiences of other states indicates that there is no way to determine a priori which of the four administrative structures -- utility, state agency, ISA, or hybrid -- is best for a particular state.

Most states' experiences are too recent to make a decisive judgment, and most observers feel that the situation is fluid and that the appropriate approaches for the different states will evolve over time. Nevertheless, successful models of each structure are emerging; for example:

- Utility administration seems to be working well in Connecticut.
- State agency administration appears to be successful in New York.
- The hybrid model appears to be effective in Massachusetts and Rhode Island.
- ISAs have worked well in the Northwest.
- In Vermont, utility administration was initially not successful, and the structure was changed to an ISA, which appears to be more effective.
- In Montana, state administration may be morphing into a hybrid state agency / utility model.

The administrative structure is largely determined by unique state-specific factors.

In Wisconsin, the state Department of Energy is transferring responsibility for administration to two nonprofit organizations because the DOE feels that it does not have the in-house staff to do it.

In New York, NYSERDA is administering the program because it does have the in-house staff.

In Vermont, initial concerns with utility performance led to the administration being transferred to a nonprofit ISA.

ISAs have a history of success in the Northwest, and Oregon has established a nonprofit ISA to administer its SBC programs.

In Montana, the state agencies are allowing the Montana Power Company to administer the SBC programs because the agencies and the state's community activists and environmentalists trust the MPC to be efficient and environmentally responsible.

In Massachusetts, it was decided to allow the Division of Energy Resources to administer the EE programs, but have the Massachusetts Technology Park Corporation administer the RE programs -- due to its experience in managing and distributing technology funds.

In Rhode Island, it was decided to administer the programs through utility-based collaboratives.

There is no method of administration that has an inherent advantage in meeting the stakeholder requirements.

Stakeholder	Interest	Collaborative	Other
New Jersey consumers	Value for their investment in EE&RE.	Possible	Less Likely
The Utilities	Implement the EE&RE / CRA program.	Yes	Possible
The Consumer Advocate	ISA, other than the utilities, to operate the CRA.	No	Yes
Industry participants	Some want an ISA, other than the utilities, to operate the RE portion of the CRA. Others happy with utilities	No Yes	Yes No
Environmental groups	Focus the CRA on maximizing environmental impacts.	Yes	Yes
The BPU, NJ DEP and Legislators	Achieve the objectives.	Possible	Possible

The generic methods available for administering the SBC EE&RE programs in New Jersey must be evaluated against consistent criteria.

Criteria that must be considered in deciding on the appropriate administrative and management structure include compatibility with broader public policy goals, accountability and oversight, administrative effectiveness, and transition issues.

Criteria	Objectives
Compatibility with Broad Public Policy Goals	1. Support market transformation goals 2. Facilitate delivery of EE services by private firms 3. Minimize all costs, including administrative, regulatory, evaluation, marketing, and customer decision 4. Make best use of existing EE and RE expertise and resources of utilities, EE and RE providers, and governmental agencies
Accountability and Oversight	1. Avoid conflict of interest between those who disburse and those who receive public funds 2. Ensure the public oversight necessary for the expenditure of SBC funds 3. Minimize regulatory or administrative procedures that could interfere with the relationship between service providers and customers 4. Align the administrative authority's financial interests and incentives with desired policy outcomes
Administrative Authority's Effectiveness	1. Provide opportunities for input and feedback from stakeholders, market participants, industry experts, and customers 2. Do not impose excessive or unnecessary transaction costs on service providers 3. Hire and retain highly qualified administrative and technical personnel
Transition Issues	1. Avoid unnecessary regulatory or political obstacles 2. Ensure seamless transition from DSM / energy efficiency programs to the new EE and RE program structure

The utility collaborative model allows more BPU control, focuses on broad policy goals, and minimizes transition costs, but has real and perceived conflicts of interest.

Criteria	Administrative Entity			
	Utilities	**State Agency**	**ISA**	**Hybrid**
Compatibility With Broad Public Policy Goals	Utility expertise and infrastructure is an advantage Utility influence with "upstream" entities is an advantage Service territory limitations can lead to market & administrative inefficiencies	Statewide scope may minimize administrative and transaction costs Agency's ability to meet EE and RE policy goals must be assessed	Organizational form, structure, & mission (e.g., statewide, regional) can be strongly aligned with market transformation goals	Can avoid utility service territory limitations May have conflicting policy goals
Accountability and Oversight	Significant potential exists for conflicts of interest or perceptions of conflict of interest with other market participants Regulatory oversight mechanisms are well developed, although process can be bureaucratic	Low potential for conflicts of interest with private market participants Public input process may be well developed but agency may have little experience with EE and RE accountability & evaluation standards	Minimal conflicts of interest exist with market participants Governance and accountability issues are significant	If appropriately structured, can avoid most conflict of interest problems Governance and accountability issues are significant due to shared responsibility
Administrative Effectiveness	Existing, well-developed mech-anisms for input and feedback from stakeholders Some utilities have highly qualified, experienced staff Desired public outcomes may not be compatible with utility financial interests	Expanded mission for existing agency; assessment of historic track record State procurement rules may make it make difficult to select optimal programs & proposals State agency may not have required technical expertise, and may have difficulty hiring and retaining qualified staff	Most flexibility on competitive procurement Institution building takes time and resources Can create efficient, lean organization quickly with clearly defined mission High probability of attracting qualified administrative & technical staff	Can take advantage of utility staff and mechanisms for input and feedback from stakeholders Administrative procedures can be complex, contentious, and time consuming Precise accountability and reporting requirements may be opaque
Transition Issues	Transition costs are the lowest	Transition issues may be significant	Political will and support needed to create new institution	Transition costs will be greater than the utility option but less than state agency or ISA

Our review of the administrative options in other states provides useful insights.

A utility's past performance in DSM/EE administration is germane, and if the utility indicates that it has little interest in continuing responsibility for ratepayer-funded EE & RE programs, then other institutional alternatives must be considered.

Some EE&RE programs that involve local activities, such as energy audits, may be administered more effectively by transmission and distribution utilities.

Statewide activities, such as participation in upstream EE and RE market transformation activities, may be more effectively administered by a statewide organization -- state agency, ISA, or hybrid. It is usually desirable to consider options for nonutility administration before choosing utility administration as a default.

Real or perceived conflicts of interest are important, and it is critical to assess whether societal objectives for promoting EE and RE are aligned with a utility's strategic incentives and whether utility administration poses significant threats to the development of competitive and robust EE and RE energy industries.

The existence of knowledgeable, well-funded (or reimbursed) interested parties can allow for negotiated settlements on funding allocations and program design, which may reduce the independent state monitoring required. Independent advisory boards can be created to provide oversight separate from that provided by regulatory staff.

The expected duration of the EE&RE programs is important; in general:

- If the period of funding is expected to be short (one to three years), then the transition and start-up costs associated with nonutility administration are likely to outweigh the expediency of continuing utility administration, despite the ongoing monitoring and regulatory oversight costs.
- If the period of funding is expected to be long (four or more years), it is appropriate to explore nonutility administration.

Section III – Organization & Future Administration (see also Appendices B, C and D)

Section III-1 – Lessons learned from other states.

Section III-2 – Selecting among organizational methods.

Section III-3 – Designing the "ideal" organization.

Our reviews of energy efficiency initiatives in Wisconsin found that there are three key rules for designing a successful organization.

Regulators must be willing to use a "stick and carrot" approach to win the hearts and minds of the participants/ implementers.

Participants must have an incentive. It is unnatural for utilities to implement EE as it goes against their enlightened self interest. No business voluntarily seeks to reduce its sales volume. Utilities also have a long-standing aversion to what they perceive as intrusions into the management of their business by commissions and interveners.

We cannot overstate the importance of an agreed Mission, Objectives and Critical Success Factors (MOCSFs) as to what is to be accomplished. To proceed without agreement on MOCSFs is a recipe for disaster. Once developed:

- Use the MOCSFs to drive the organizational design.
- Identify the appropriate participants and their roles, and assess their incentives.
- Select decision making rules and other governance processes with consideration of the needs of the organization.
- Provide the organization with a legal identity and a suitable structure, leadership, and distribution of power.
- Recognize the need for chemistry, compatibility, and interdependence between the participants and the difficulty, time, and effort required in making the various parties into a team.

We now need to design the ideal organization, and the first step is the determination of the Board's strategy and objectives and the existing and likely future conditions under which this strategy will be implemented.

The mission is to implement the CRA objectives; however the strategy is hard to determine.

The existing and future conditions under which these objectives and strategy will be implemented do not appear to facilitate achieving the CRA objectives since:

- New Jersey is restructuring its electric utility industry.
- The U.S. Energy Information Administration predicts that real energy will continue to decline over the next two decades, and there is a temporary rate freeze in effect in New Jersey.
- Rate structures do not reflect the true cost of time of use.
- There are no time requirements in the BPU's net metering regulations. However, the utilities have agreed to process interconnect applications within 30 days. There are no interconnect regulations.
- Regulation promotes prudent operation rather than focusing on results and rewarding achievement of objectives.

The mission of the organization selected is to implement the BPU's CRA objectives. So what are they?

EDECA Objectives	NJ DEP Objectives	BPU Objectives
Transform markets.	Transform markets.	Transform the EE&RE Market in New Jersey, which will achieve the following other objectives of the CRA: - Help customers reduce their energy use - Replace existing DSM programs. - Encourage development and marketing of EE&RE technologies. - Provide environmental benefits to residents of New Jersey and the region. - Ensure that EE&RE are a central part of the state's energy policy.
Make energy services more affordable to low income customers.	Provide substantial energy saving	Lower low income customers' energy bills.
Establish renewable energy programs that are indigenous to New Jersey	Reduce the amount of coal, oil, and natural gas New Jersey imports to meet it energy needs	Develop renewable energy resources. This will provide environmental benefits but probably increase costs.
Eliminate subsidies for programs that can be delivered in the marketplace without utility customer funding.	Facilitate the participation of companies throughout New Jersey and ensure that customers have the same benefits regardless of the service territory in which they live	
Capture lost opportunities	Establish uniform statewide programs to encourage EE&RE	
	Help New Jersey attract new, high tech industry	Create a competitive energy marketplace in New Jersey
	Improve system reliability	
	Add capacity to the power grid through environmentally friendly market-based strategies, rather than major infrastructure investments	

The first objective is market transformation, for which there are seven critical success factors.

Critical Success Factors are those processes which, if done well, are collectively necessary and sufficient to achieve the objective. There should be no more than eight factors per objective. The CSFs drive the plans, strategies and organization design.

CRA Objective #1: Market Transformation.

SCFs:

1. Define the market to be transformed and the Market transformation metrics.
2. Research and understand the market in terms of:
   - Economic structure and economic drivers
   - Energy use and purchasing decisions
   - Price elasticities
   - Stakeholders / participants
   - Customer perceptions
3. Understand the environment—global, national and state—and its impact on the market to be transformed.
4. Analyze the current state of technology and match it to markets and cost / benefits,
5. Develop specific programs to transform the market:
   - Pricing
   - Delivery Mechanisms
   - Incentives
   - Technologies.
6. Conduct ongoing evaluations of impacts / results
7. Develop exit strategies.

The second objective is to lower consumers' energy bills, for which there are several strategies.

The objective is to lower customers energy bills. Real energy bills will decline because of the projected real reduction in coal prices and the cost of nuclear power. However, under current rate regulation market transformation may increase energy bills. There are various ways to offset this increase. The Collaborative and utilities could:

- Use energy efficiency programs to reduce energy consumption over the long term.
- Improve their asset utilization, i.e. improve the system load factor, thereby lowering the fixed cost per unit of energy.

Supposing the utilities decided to use their capital more intensely, at any sales level, to lower the portion of capital costs per kWhr and per Therm. Critical success factors could be as follows:

CRA Objective #2: Reduce customers' energy bills by increasing load factors and reducing capital costs per unit of energy.
CSFs

1. Research and analysis to quantify the impact of load factor improvement on cost reduction.
2. Develop cost reduction / load factor improvement metrics.
3. Economic development to attract high load factor customers.
4. Market research to enable design and marketing of tariffs reflecting true cost of time of use.
5. Market education.
6. Develop peak shifting / reducing programs.
7. Develop and implement alternate technologies, e.g. fuel cells.

The Natural Gas Fuel Cell program is an example of a program that produces environmental benefits and shifts peak load. As fuel cell technology improves and costs decline it may reduce consumers' future energy bills and improve the security of the electric production system.

For the third objective, develop renewable energy, we identified six critical success factors.

Objective #3: Develop renewable energy resources. (This will provide environmental benefits but probably increase costs.)
CSFs:

1. Set incentives and consumer cost / benefits based upon the real cost of:
   - existing generation including externalities, i.e. the environmental and health impacts of fossil and nuclear fuels
   - Renewable technology, e.g. including back-up requirements for PVs and Wind Power.
2. Match technologies to New Jersey markets.

   Nota Bene: Natural Gas Fuels Cells are not a renewable technology.
3. Adopt only renewable technologies that:
   - Appear commercially competitive and available within the next four years
   - Have a developing supply chain.
4. Promote competition amongst suppliers by leveling the playing field for all industry participants.
5. Promote supporting infrastructure development within New Jersey.
6. Enforce clear interconnect regulations which facilitate consumer interconnection.

To achieve the CRA objectives the organizational structure needs to facilitate risk taking and decision-making and to be efficient.

To facilitate decision-making the organizational structure needs:

- Leadership with the authority to:
  - Set / approve goals and objectives, and commit member organizations (utilities) etc to these goals.
  - Set / approve budgets and incentives.
  - Change budgets and programs as required during the year
  - Commission oversight by Staff members supported by an independent business group with sufficient managerial experience and technical and analytical skills to:
  - Formulate / review goals, objectives, budgets and incentives,
  - Review goal achievement and recommend for or against incentive payments.

  Since this type of resource is not available within the Commission, it should be obtained from consultants reporting to the BPU, appointed on a multi year basis subject to performance, and paid for by the utilities out of the SBC funds.

- Significant involvement of the:
  - Utilities in the EE programs, since the utilities are probably the best implementers of EE programs.
  - All industry participants in the renewables program.

- To avoid duplication of effort both at the BPU and within the Collaborative and the Utilities

The organization needs processes designed to achieve the CRA Objectives

The organization needs to treat the CRA funds as an investment by New Jersey ratepayers. As in all investments, the investors want their money back and a return on their investment. The implementers, the utilities, should be paid an incentive for achieving the CRA objectives, which is the investors' return on their investment -- the "investment bargain."

To focus attention on achieving results requires processes that:

- Develop programs to implement the CRA objectives and the CSFs over the remaining seven year life of the CRA.
- Have measurable goals tied to the implementation of objectives and CSFs.
- Freely communicate the goals, objectives, and incentives, both within and outside the ISA.
- Base rewards on effectiveness—achievement of goals -- and efficiency -- the costs of doing so.
- Provide activity based costs by CRA objective and CSF and the programs to achieve them, thus allowing assessment of efficiency.
- Continually measure and update performance.

The organizational culture must promote risk taking, value results, and deal with conflict openly and frankly.

The culture must be one that:

- Values results and considers budgets a contract for performance between the resource owner (customers) and the resource user.
- Recognizes and deals with differences of interests openly and frankly and develops consensus.
- Empowers utilities to act.
- Reinforces culture by rewards based solely on achievement and the keeping of the "investment bargain".
- Accept Risks: Penalizing an implementer for a well-conceived but ultimately unsuccessful market transformation program -- by, for example, denying cost recovery or withholding shareholder incentives -- will send the message that market transformation programs are not worth the risk.

The Organization needs the resources necessary for implementing the processes.

The resources required for this organization need to have strong skills and experience in:

- Transforming Markets.
- Economics and market assessments.
- Technologies for renewable energy and energy efficiency technologies.
- Asset management and utilization.
- Management, goal setting and measurement.

Lastly, like Ceasar's wife, it must not only be tough, fair, and independent, it must also be perceived to be so.

Section I - Objectives & Methodology.

Section II - Administrative Costs (see also Appendix A)

Section III – Organization & Future Administration (see also Appendices B, C and D)

- **Section III-1 – Lessons learned from other states.**
- **Section III-2 – Selecting among organizational methods.**
- **Section III-3 – Designing the "ideal" organization.**

Section IV – Collaborative Performance (see also Appendix E)

Section V - Recommendations.

Since past performance is the best indicator of future performance, we reviewed the Collaborative's performance, which is impressive.

The utilities' purpose in the Collaborative is to maintain control of the EE&RE programs. Notwithstanding this, the Collaborative is an impressive achievement. The utilities, within one year:

- Formed themselves into a team.
- Formed the Collaborative, with a structure, processes and resources. They have:
  - Supported the Collaborative with experienced managers and have devoted sufficient trained staff to manage the implementation of the programs.
  - Developed and implemented a system for consistently collecting and reporting costs in accordance with the BPU definition of administrative costs.
  - Met the minimum administrative requirements agreed by the BPU.
- Agreed upon and implemented 12 state wide programs, setting goals for each individual utility to achieve in each of the programs, and measuring and reporting their progress in achieving the goals, both by the utility and collectively.
- Developed and issued RFPs for evaluation of the various programs.
- Used their collective buying power to improve efficiency and lower costs.

The Collaborative has a management committee, program committees for the various programs, and consulting staff support.

The senior management committee is comprised of:

- One representative from each of the seven utilities, and
- A representative from the NRDC.
- A representative of the expert advisors who participates on behalf of NRDC, and who until recently acted as the unofficial meeting manager / secretary of the Collaborative, a role the utilities considered the representative performed well; and
- Representatives from Deloitte-Touche provide regulatory-type services to the committee. This company has now assumed the role of meeting manager / secretary from the NRDC.

The Program Working Groups are comprised of utility personnel, one of whom acts as a convener or administrator. There is a management sponsor who is a member of the Senior Management Team and who brings program specific issues to the management committee for resolution.

Beside the above, national energy efficiency experts also serve as advisors to the Collaborative on various aspects of the programs. They were involved in the development of the programs and participate in each of the Program Working Groups as technical advisors and representatives for NRDC.

The Collaborative is functioning and making decisions, albeit slowly. Some participants feel this structure is frustratingly slow and there is no one with a "stick or carrot" or the willingness to use either, if they, existed to focus the Collaborative's attention on developing and implementing the plans required to achieve the CRA's objectives.

This structure excludes a large portion of the renewables industry from participation. The utilities will not allow RE groups to participate in the Collaborative's management meetings.

The Collaborative focused on getting programs up and running rather than on planning and designing programs to meet the CRA objectives.

The Collaborative developed 12 programs. In the rush to get up and operating, the Collaborative implemented many DSM legacy programs selected from the utilities' DSM programs in operation prior to the CRA. Few of these programs address the CRA objectives, and as a result the money being spent on them is not being optimized.

The Renewable Energy program is new, but its structure ensures that it will not achieve the CRA's goal of developing an RE energy industry indigenous to New Jersey. This is because of the inclusion of Natural Gas Fuel Cells, which are not a renewable energy technology, has used much of the Tier 1 support money. The Tier 2 support money may be inadequate to persuade consumers to install real renewable energy technologies.

The Collaborative has defined administrative costs and designed a system to record and collect these costs by utility, and these costs are reported to the Collaborative and summated and included in a report to the BPU. Both the Collaborative and the individual utilities are meeting the BPU's administrative requirements based on the existing Collaborative programs. However, developing programs to implement the CRA's objectives will require different sets of skills than those currently being applied by the utilities to the existing Collaborative programs.

There are annual goals for each utility in each program. Performance is measured against goals and reported to the Collaborative, where they are assembled into a Collaborative report which is filed with the BPU.

There is no long term plan for achieving the CRA's objectives. (The NRDC representative has been trying, unsuccessfully, to get the Collaborative to focus on developing long-range goals. However, even she does not recognize the problems with the existing Collaborative programs.) The utilities desire to maintain control of the EE&RE programs -- which is understandable and in their enlightened self interest. However, the best way for the utilities to keep some modicum of control over the EE&RE programs is to focus on achieving the CRA's objectives and to do so more effectively and efficiently than anyone else. Otherwise, they are perceived as focusing on the operational problems of recouping their money from the SBC, such as ensuring the prudency of their decisions etc.

The utilities devoted sufficient quality resources for the development and implementation of the Collaborative and its existing programs; however, resources with different types of skills are needed to achieve the CRA's objectives

The utilities devoted sufficient quality resources both to the Collaborative and within each utility to implement the programs selected by the Collaborative. For instance, the resources devoted by the utilities are excellent for legacy DSM programs, but they do not have the skills required to address market transformation. Most of the utilities' representatives also lack renewable energy skills.

However, achievement of the CRA's objectives will require different programs and, consequently, resources with different skills and experience; for instance, abilities to recognize market barriers, organization and persuasion skills to bring diverse groups together and act in unison, customer preference skills, marketing skills, economic and behavioral analysis skills, experience in market transformation, etc. One of the utilities possesses some of the required resources; the others utilities will have to obtain—hire or train—them.

However, there exists substantial related skills and experience within the Collaborative that could be directed towards market transformation initiatives. Fore example, senior managers in the Collaborative hold marketing positions in the marketing departments of their companies, and most have significant marketing experience, and the individuals who report to them have also significant marketing experience as well. In addition, the Collaborative has utilized consultants who have market transformation experience.

The culture of the Collaborative will have to become one of risk taking and to become results oriented.

The fact that the Collaborative was allowed to implement the EE&RE programs demonstrates that utilities can achieve goals. They now need to change their focus from one of being selected to run the EE&RE programs to achieving the CRA's objectives.

One has to remember that we are dealing with the utilities' culture of careful and prudent operations brought about by rate regulation. Those involved in the Collaborative are the products of this culture; their personal success is tied to this culture and they will not step outside. Thus, we need to operate on the utilities' internal culture as it applies to the Collaborative. We want the utilities to be focused on the CRA results, to be inclusive, and to leverage themselves appropriately through all the industry participants, and to address the interests of all the constituents openly and frankly.

The surest way to do this is through a rewards system in which utilities are rewarded for achievement of the CRA objectives. This will:

- Align the utilities' interests with those of the BPU, Consumer Advocate, and various Consumer Groups, i. e. achieving the CRA objectives.
- Focus attention on results and on achieving the CRA objectives by making budgets a contract for performance.
- Empower utilities to act quickly in their enlightened self interest.

In addition, it will be in the utilities' interest to be inclusive of all entities that can leverage / assist their efforts and to recognize and deal with differences of interests openly, frankly, and quickly to develop consensus.

As long as utilities are penalized for failure to meet the CRA objectives, rewarded for achieving them and the BPU honors the "investment bargain", such a culture will develop and will be a "win-win" situation for all involved.

Market transformation is the key objective for SBC EE&RE programs

Market transformation has increased in importance as an objective in SBC EE&RE programs, and the experiences of a number of states have demonstrated that programs can cause lasting beneficial changes in markets.

Market transformation refers to changes in the structure of the market for EE&RE products or services such that energy efficiency is improved and the changes remain after the programs have ended. Transforming a market means changing the types of products or services that are offered, the basis on which purchase decisions are made, the type or number of actors in the market, or in some other way altering the set of interactions in a self-sustaining manner. Market transformation is a result rather than a type of program, and MT programs involve:

- Multiple market actors: Manufacturers, distributors, retailers, contractors, engineers, builders, trade associations, utilities, government agencies, etc.
- Activities designed to remove or lower specific market barriers to EE&RE technologies.
- Relatively long time frames.
- Significant activity upstream from the customer or end user.

Market transformation programs frequently require utilities and/or regulators to play more of a supportive role rather than a central role in achieving EE/RE objectives and generally:

- Result in energy savings that are not specific to a single utility service territory or regulatory jurisdiction.
- Are planned to result in permanent change in the market.
- Create a set of conditions under which the self-interest of market actors is aligned with achieving greater energy efficiency or renewable energy technology market penetration.
- Take advantage of momentum in the market for the targeted changes, often linking EE&RE with other product or service attributes that are of equal or greater value to the end user.
- Involve and depend to a significant extent on the voluntary cooperation of a range of market actors over which utilities and commissions have little or no control.

There are important differences between market transformation programs and traditional DSM programs.

Unlike traditional utility DSM and EE programs, market transformation programs explicitly try to change the market so that the EE&RE products will be purchased in the future without ongoing programmatic intervention or government mandates or subsidies.

The key factors differentiating market transformation program design from traditional DSM program designs are:

- **A focus on removing or lowering market barriers**. Market transformation programs are targeted directly at removing or lowering market-specific barriers. Key barriers to the targeted technology, service, or behavior must be identified; the market will not be transformed if the program removes only barriers existing on the product supply side or only on the customer demand side.
- **Use of market indicators.** These are characteristics of the targeted market that are expected to change if the market is truly being transformed. Examples include the number or percentage of manufacturers offering a new efficient technology, number or percentage of retail outlets carrying the product, amount of shelf space devoted to a targeted product or the prominence of its display in stores, product price, product technical specifications, percentage of consumers aware of a targeted product or service, or number or percentage of builders installing the technology in new buildings.
- **Permanent change in the market**. The MT program must include a logic for a chain of events that will result in permanent change in the market.
- A more **macro perspective** than traditional DSM programs, the potential to **achieve very large energy savings** relative to traditional DSM programs and **longer time frames than DSM programs** before the majority of program impacts are obtained and energy savings realized
- **An exit strategy**. The program plan must have a clear logic explaining why the program stimulus to the market will no longer be needed after a specified period of time or after certain market indicators reach pre-specified levels. These exit trigger points / thresholds must be specified.

New Jersey has, among its major goals, market transformation for its EE&RE programs, but most of the CRA programs are not facilitating it.

A major goal of the New Jersey SBC EE&RE programs, as articulated by the New Jersey Electric Discount and Energy Competition Act of 1999 (EDECA), the BPU, the New Jersey Department of Environmental Protection, and the New Jersey Clean Energy Collaborative (NJCEC), is to achieve EE&RE market transformation, and many of the current EE&RE program plans acknowledge market transformation as a goal. However, as presently structured, a number of these programs are unlikely to adequately transform the markets in question. Many of the SBC EE&RE programs in place and in the process of being implemented by the Collaborative are not sufficient to bring about the widespread market transformation desired by all of the stakeholders:

- Some of the programs and initiatives may contribute to or facilitate market transformation; for example, the C&I Compressed Air System Optimization Program and the Residential Energy Star Products Program.
- Some of the programs may hinder market transformation; for example, the Customer-Sited Clean Energy Generation Program.
- Some of the programs may have little or no effect on market transformation; for example, the Residential Low Income Program, the School Energy Efficiency and Renewable Energy Education Program, the Residential Retrofit Program, and the Residential Air Conditioning Cycling Load Control Program.
- For some of the programs, even years from now, it may be difficult to determine what, if any, effects were exerted on market transformation; for example, the C&I Building Operations and Maintenance Program and the C&I Energy Efficient Construction Program.

Not only are the FY 2002 budget and program plans not sufficient to achieve the desired levels of market transformation in the state (which are themselves unknown and unspecified), but some of the programs may not even be necessary. However, some of these programs may facilitate achievement of other CRA objectives.

To achieve market transformation immediate action must be taken to realign the CRA programs.

In order for a market transformation program to be successful, a minimum number of specific actions must be taken. However, this has not occurred in New Jersey; for example:

Focus and Planning

- Focus market transformation initiatives more on changing markets and the overall patterns of behavior of market participants and less on influencing individual purchase decisions. Implementation requires a specialized analytical framework for assessing cost-effectiveness that has not been fully developed in New Jersey, although this is part of the Collaborative's program strategy.
- Make market transformation the primary, overriding focus of all of the EE&RE programs from the beginning, and develop a comprehensive market transformation strategy prior to the programs' implementation relating every program element, initiative, and funding proposal directly to the market transformation objective and strategy. New Jersey's market transformation strategy is inadequate and there is little attempt to link specific program elements to market transformation objectives.
- Identify and collect data on market change indicators prior to program implementation. This has not been done in New Jersey.
- Develop precise exit goals and strategies so that transformed markets can be identified and market transformation successfully implemented, phase out funding for certain programs as market transformation is achieved, and transfer remaining funds to other programs. In New Jersey, exit goals and strategies have not been developed.
- Develop evaluation plans and protocols designed for market transformation programs, which are different form those developed for traditional DSM and EE programs. This has not been done in New Jersey.

To achieve market transformation immediate action must be taken to realign the CRA programs.

Resources

- A strong leading advocate or organization is critical to market transformation program success, and the final, overriding responsibility to ensure that a comprehensive, consistent market transformation strategy for all of the EE&RE programs is implemented in the state must be vested in a designated entity. In New Jersey currently no person or any organization currently fulfills this role.
- Staff skills and expertise required for planning, implementation, and evaluation of market transformation programs are different than those required for traditional utility DSM, EE, and evaluation programs. This does not appear to be recognized, nor have programs been developed to appropriately retrain current staff.

Processes

- Evaluation activities must be continued after the programs' termination because:
  - Market transformation programs consist of an integrated set of activities that change over time to achieve specific goals and objectives tied to desired market effects
  - The outcomes are expected to last after the activities have ended.
- Accept Risks: Penalizing an implementer for a well-conceived but ultimately unsuccessful market transformation program -- by, for example, denying cost recovery or withholding shareholder incentives -- will send the message that market transformation programs are not worth the risk. There is little recognition of this type of risk acceptance in New Jersey.
- Research, development, and demonstration programs can be an important part of market transformation strategies. This is not now addressed in New Jersey.
- Develop methods for attributing energy impacts to particular programs and specify evaluation requirements and standards prior to program implementation. This has not been done in New Jersey.

- Link utility incentive mechanisms to evaluation results that address delayed market transformation impacts, since short-term energy savings frequently have little bearing on long term success.

The Collaborative has put some elements of a market transformation program in place, which can serve as the nucleus for an adequate MT strategy.

Under appropriate guidance and direction, many of the activities currently underway or being planned can be re-configured into a comprehensive market transformation strategy. It is important that this re-configuration begin as soon as possible. For example:

- **Collaboration.** Geographically, most markets, and thus most potential market transformation effects, tend to occur at levels broader than the service territories of individual utilities, and one implication of this is that utilities wishing to document their role in causing observed market changes will generally need to collect data beyond the boundaries of their service territory. The preferred approach toward this end is for utilities to collaborate with one another, comparing the evolution of EE&RE markets in each service territory, and the Collaborative has established the basis for such collaboration.
- **Lead Implementer.** Because market transformation programs work through the market instead of around it, many market transformation programs must include a significant participation of a wide range of entitles, and consortia and partnerships are usually needed to make the effort successful. Without a strong lead charged with coordinating the activities, the involvement of various parties, and without the delegation of primary responsibility for timely implementation of the program, the initiative may dissipate. The Collaborative can serve as the lead implementer.
- **Baseline Data.** Substantial baseline data have been collected or are in the process of being collected by the Collaborative -- directly and by RFPs, and this will be of use in developing a market transformation strategy.
- **Recognition of Market Transformation**. The program evaluation plans (but not all of the RFPs) at least give some lip service to market transformation and thus recognize its significance. The salient point is that reconfiguring the New Jersey program into a market transformation strategy should be relatively

straightforward, given that the participants already agree (at least in theory) that market transformation is the ultimate goal.

The Collaborative has put some elements of a market transformation program in place, which can serve as the nucleus for an adequate MT strategy

- **Market Documentation and Identification of Market Barriers**. Significant documentation of the markets to be transformed and identification of the market barriers that must be addressed has been conducted for the New Jersey SBC EE&RE programs.
- **Analyses of Market Barriers**. The NJCEC recognizes that market transformation activities are devised in direct response to identified market barriers, and understanding the particular market barriers for a measure is necessary to develop and implement successful market transformation activities. It has listed this as a major task in the RFPs issued on 11-30-01.
- **Some Recognition of the Difference Between Market Transformation and DSM**. The Collaborative recognizes, in theory, the differences between traditional DSM evaluation and evaluation of market transformation programs, which is a useful and necessary first step in implementing appropriate evaluation programs. In some of the program evaluation plans the Collaborative notes:
  - One of the major differences between traditional EE programs and market transformation programs is the target audience for the program.
  - Market transformation program evaluation focuses on changes in the market, whereas traditional programs focus on the behavior of individual participants.
- **Recognition of the Role of Financial Flexibility.** The NJCEC recognizes that some flexibility is required with respect to utilities' incentives and program budgets. For example, the utilities have requested the flexibility to exceed their budget by at least 110 percent for any one program and to exceed annual program budgets by 150 percent. The Board has allowed such flexibility in the past, and is currently considering this request. Program and budget flexibility is a key to successful market transformation programs, but such flexibility is largely lacking in the NJCEC programs. The above example is a useful exception to this, and can be exploited and expanded.

Critical Success Factors for Market Transformation

1. Define the market to be transformed and the Market transformation metrics.
2. Research and understand the market in terms of:
   - Economic structure and economic drivers
   - Energy use and purchasing decisions
   - Price elasticities.
   - Stakeholders / participants
   - Customer perceptions
3. Understand the environment—global, national and state—and its impact on the market to be transformed.
4. Analyze the current state of technology and match it to markets and cost / benefits,
5. Develop specific programs to transform the market:
   - Pricing
   - Delivery Mechanisms
   - Incentives
   - Technologies.
6. Conduct ongoing evaluations of impacts / results
7. Develop exit strategies.

(This page faces page 66)

To demonstrate that existing Collaborative programs are unlikely to transform the energy market, the CRA's first objective, we compared the programs to the critical success factors for market transformation.

Programs	Critical Success Factors										
	CSF # 1 – Define/Research Market			CSF # 2- Develop Plans & Programs			CSF # 3	CSF # 4	CSF # 5	CSF # 6	CSF # 7
	Market Documentation	Baseline Data	Identify Market Barriers	Plan to Eliminate Market Barriers	Program Elements & Budgets Tied to MT	MT Over-riding Focus	MT Evaluation Plans	Resource Flexibility	Strong MT Advocate	MT Staff Skills	Exit Strategy
Res. El. HVAC	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No
Res. Gas HVAC	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No
Res E. Star Prod	Yes	Yes	Yes	Yes	No	Yes	INA	Yes	No	Maybe	No
Res. New Constr.	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No
Res.Retrofit Prog.	No	No	No	No	No	No	No	No	No	No	No
Residential LI	Yes	Yes	Yes	Yes	NA	NA	NA	No	NA	NA	No
C&I EE Constr.	Yes	Yes	Maybe	Maybe	No	No	No	No	No	No	No
C&I Bld O & M	Yes	Yes	Yes	INA	No	No	No	Yes	No	No	Maybe
C&I Comp Air Syst. Opt.	Yes	Yes	Yes	Yes	No	No	No	Yes	No	Maybe	Yes
Res. AC LC Prog.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EE&RE Education	NA	NA	NA	NA	NA	NA	NA	Yes	NA	NA	No
CS CEGP	INA	Yes	Yes	No	No	No	No	Yes	No	No	No

NA=Not applicable
INA = Inadequate. Programs are described in full overleaf. The critical success factors for Market Transformation are shown above.

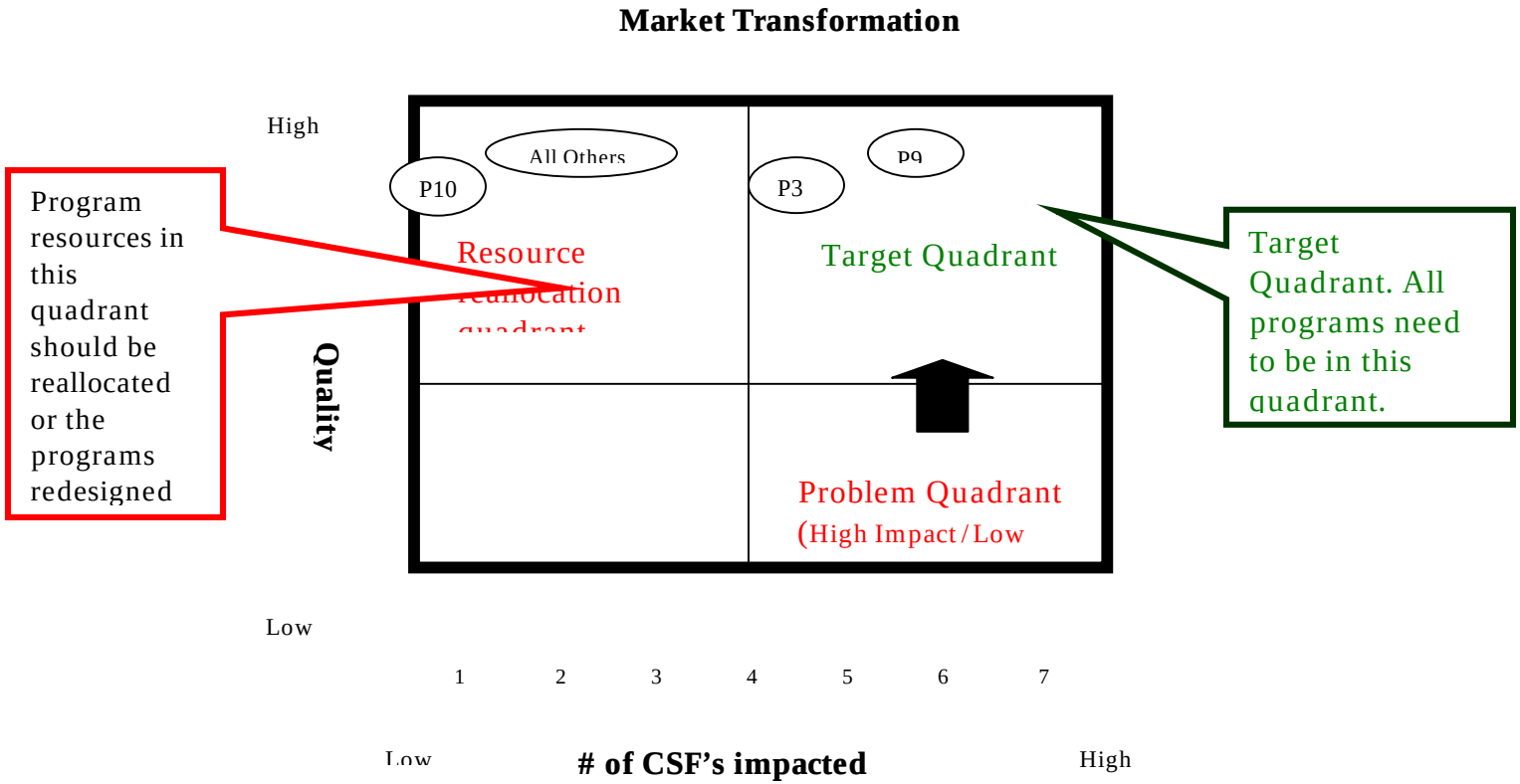
Most of the Collaborative's programs do not adequately address the critical success factors

Program Number	# of CSF's Impacted	Description
P1	2	Residential Electric HVAC
P2	2	Residential Gas HVAC
P3	3-5	Residential Energy Star Products
P4	3	Residential New Construction
P5	0	Residential Retrofit Program
P6	2	Residential Low Income
P7	2	C&I Energy Efficient Construction
P8	3	C&I Building Operations and Maintenance
P9	5	C&I Compressed Air System Optimization
P10	0	Residential Air Conditioning Cycling Load Control Program
P11	1	School Energy Efficiency and Renewable Energy Education Program
P12	2	Customer-Sited Clean Energy Generation Program

(This page faces page 68)

Comparing the number of CSFs impacted by each program to the quality of performance illustrates the problem.

If we graph the number of CSFs each program impacts against quality of program we obtain the following result. Note that all the programs performed by the Collaborative appear to be of a high quality.



CRA Objective #2: Reduce customers energy bill by increasing load factor and reducing capital cost per unit of energy.

CSFs

1. Research and analysis to quantify the impact of load factor improvement on cost reduction.
2. Develop cost reduction / load factor improvement metrics.
3. Economic development to attract high load factor customers.
4. Market research to enable design and marketing of tariffs reflecting true cost of time of use.
5. Market education.
6. Develop peak shifting / reducing programs.
7. Develop and implement alternate technologies, e.g. fuel cells.

(This page faces page 70)

Again comparing the current programs against the CSFs for achieving the CRA's second objective illustrates that it is unlikely to be achieved.

Programs	Critical Success Factors						
	R &A Quantify LF Improvements	LF / Cost Reduction Metrics	Economic Development	Market Research TOU tariffs	Market Education	Develop Programs for Improving LF & Peak Shifting	Develop & Implement Alternate Technologies, e.g. Fuel Cells
Res. El. HVAC	NA	NA	NA	NA	NA	NA	NA
Res. Gas HVAC	NA	NA	NA	NA	NA	NA	NA
Res E. Star Prod	NA	NA	NA	NA	NA	NA	NA
Res. New Constr.	NA	NA	NA	NA	NA	NA	NA
Res.Retrofit Prog.	NA	NA	NA	NA	NA	NA	NA
Residential LI	NA	NA	NA	NA	NA	NA	NA
C&I EE Constr.	No	No	No	No	No	Yes	No
C&I Bld O & M	No	No	No	No	No	Yes	No
C&I Comp Air Syst. Opt.	No	No	No	No	No	Yes	No
Res. AC LC Prog.	No	No	No	No	No	Yes	No
EE&RE Education	NA	NA	NA	NA	NA	NA	NA
CS CEGP	No	No	No	No	No	Yes	Yes

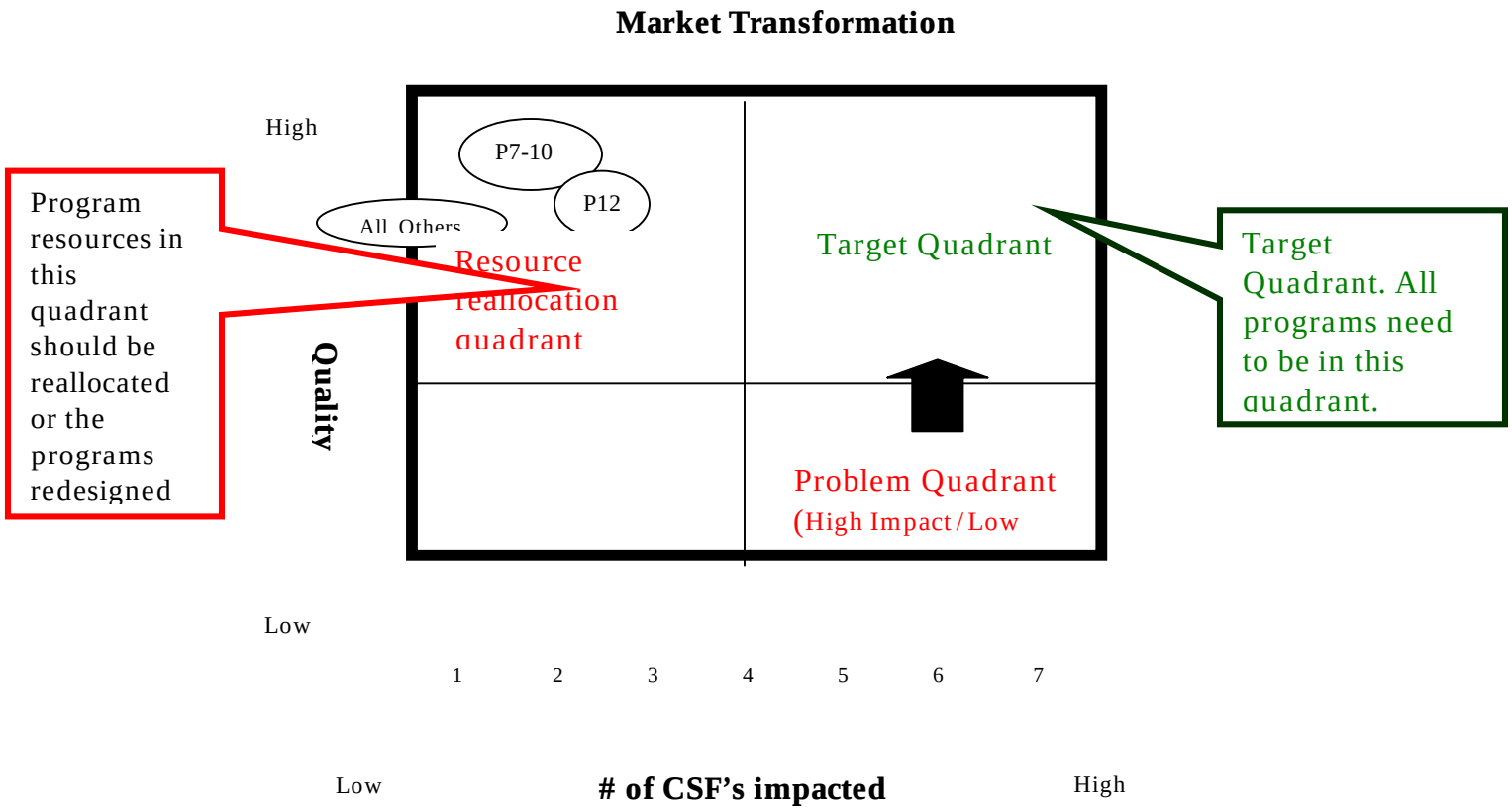
Critical Success Factors for CRA Second Objective Reducing Consumer Energy Bills using strategy of reducing fixed-asset cost portion of consumers' energy bills.

Program Number	# of CSF's Impacted	Description
P1	0	Residential Electric HVAC
P2	0	Residential Gas HVAC
P3	0	Residential Energy Star Products
P4	0	Residential New Construction
P5	0	Residential Retrofit Program
P6	0	Residential Low Income
P7	1	C&I Energy Efficient Construction
P8	1	C&I Building Operations and Maintenance
P9	1	C&I Compressed Air System Optimization
P10	1	Residential Air Conditioning Cycling Load Control Program
P11	0	School Energy Efficiency and Renewable Energy Education Program
P12	2	Customer-Sited Clean Energy Generation Program

(This page faces page 72)

Comparing the number of CSFs for the CRA's second objective impacted by each program to the quality of performance illustrates the problem.

If we graph the number of CSFs each program impacts against quality of program we obtain the following result. Note that all the programs performed by the Collaborative appear to be of a high quality.



As constituted, the Collaborative's renewable energy program is precluding New Jersey from developing an indigenous renewable energy industry.

Objective #3: Develop renewable energy resources. (This will provide environmental benefits but probably increase costs.)

As can be seen, there is only one renewable energy program. Unfortunately, this program is actually inhibiting the development of an indigenous renewable energy industry in New Jersey. This is because the Natural Gas Fuel Cell program has used the majority of the first tier support. Fuel cells are a promising technology with many benefits, but natural gas fuel cells are not a renewable technology. Thus a nonrenewable technology is crowding out the renewable technologies in a program designed to develop renewable energy in New Jersey. We have not graphed the program's impacting the CSFs against quality of program because the outcome is painfully obvious.

Programs	**Critical Success Factors**					
	Incentive based upon real costs of generation and renewables	Technology matched to Market	Technologies commercially available in 4 –8 years	Level Playing Field for all participants	Infrastructure Development	Clear Interconnect Rules
P1	NA	NA	NA	NA	NA	NA
P2	NA	NA	NA	NA	NA	NA
P3	NA	NA	NA	NA	NA	NA
P4	NA	NA	NA	NA	NA	NA
P5	NA	NA	NA	NA	NA	NA
P6	NA	NA	NA	NA	NA	NA
P7	NA	NA	NA	NA	NA	NA
P8	NA	NA	NA	NA	NA	NA
P9	NA	NA	NA	NA	NA	NA
P10	NA	NA	NA	NA	NA	NA
P11	NA	NA	NA	NA	NA	NA
P12	No	Maybe	Some	No	Maybe	Yes

We have seven major recommendations.

1. Align BPU regulations and activities to better support achieving the CRA objectives.
2. Devote more BPU resources to the CRA.
3. Legitimize the Collaborative.
4. Develop and use a "stick and carrot" approach to focus the Collaborative's efforts on achieving the CRA objectives. This has two parts:
   - First, the "carrot" to incentivize the utilities with large enough payments to get management attention aligning their interests with those of the BPU, and
   - Second, the "stick" to take control of the money by putting it in a trust fund controlled by the BPU.
5. Retain the Collaborative (appropriately reorganized), but restrict its administration and management to the energy efficiency programs.
6. Have the BPU assume responsibility for the renewable energy programs.
7. Amend the definition of accounting costs and improve and use the cost accounting procedures to measure the efficiency of program implementation.

Recommendation #1 —Align BPU regulations and activities to better support achieving the CRA objectives.

To better support achievement of the CRA Objectives the BPU should consider / reconsider:

- Implementing policies that will lower customer bills. For example, one such policy that could be considered is allowing / requiring New Jersey energy suppliers to develop and market Real Time / Time of Use tariffs. Since this will impact those low-income users who cannot adjust their energy usage, programs need to be introduced to lessen / ameliorate the impact on these consumers.
- Ensuring that other BPU regulations, such as interconnect regulations and net metering, support CRA objectives.
- Interfacing with other New Jersey agencies, such as the Economic Development Office, to ensure that the energy requirements are considered in attracting new business to New Jersey.
- Using NARUC to establish an interstate EE&RE group data base to share information on administrative costs, organization and administrative forms, etc.
- Transferring the administration of the Low Income program to a state agency better suited to administer such programs.

Recommendation 2—Devote more BPU resources to the CRA to keep a better eye on the Collaborative.

More BPU resources are required to manage the CRA and the Collaborative. The quality and skills of the existing BPU resources devoted to the CRA are excellent. Unfortunately, these resources are overwhelmed with work, and the result is that the time devoted to the CRA is inadequate to manage effectively a $1 billion program. Four things need to happen:

- The BPU Manager of Conservation and Societal Programs needs to have more time available to devote to the CRA.

- The BPU Manager of Conservation and Societal Programs needs to be a member of the Collaborative's management group.

- The BPU Manager of Conservation and Societal Programs needs support to review and analyze the Collaborative's goals, objectives, and budgets, to measure performance, and to make recommendations concerning incentive payments (see below). As the BPU does not have these resources and probably cannot hire them as staff members – due to career path, salary requirements, budget constraints, and other issues -- consultants should be hired on a multi year contract with renewal subject to performance. The BPU should hire the consultants and the Collaborative should pay for them.

- Delegate to the BPU Manager of Conservation and Societal Programs authority to approve achievement of the Collaborative's short-term goals and objectives and changes to its annual budgets, and the responsibility to analyze performance and recommend payment/denial of incentives to the BPU Commissioners.

Recommendation 3—Legitimize the Collaborative.

A collaborative is an inherently difficult organizational form. This one is charged with implementing the EE&RE portion of the CRA objectives and spending approximately $1 billion to do so – although, as noted, we recommend that the RE programs be transferred from the Collaborative.

The Collaborative needs to be legitimized and recognized by the BPU. Specifically, the BPU should require that it be a formal legal entity, which will provide a formal status and legitimacy, facilitate obtaining resources, confer a degree of permanency, and, with the incentive payments outlined below, focus top utility management attention on achieving the CRA objectives.

The BPU should appoint the Collaborative as the ISA for the energy efficiency programs, subject to changing its legal form and making the changes recommended to meet the CRA energy efficiency objectives and to ensure satisfactory annual performance.

Recommendation 4. —Develop and use a "stick & carrot" to focus the Collaborative's efforts on achieving the CRA objectives: part one incentivize the utilities.

It is critical to provide the utilities with real incentives to achieve the CRA objectives – both carrots and sticks.

At present, the utilities' interest is defensive damage control, since they want to keep control of the EE&RE programs. The BPU needs to engage their creativity by providing them with a stake in the success of the CRA objectives, and the best incentive is one that creates a genuine utility self-interest in achieving the CRA's objectives.

One way of doing this, and DAI's preferred way, is to design an incentive payment system to the utilities for achieving the CRA objectives. In effect, the BPU would treat the CRA as an investment, which the utilities are undertaking for the New Jersey consumers. Just like any investment, if it succeeds, the investor and the investment manager (the utilities / Collaborative) receive a reward. The investor receives a return on the investment -- lower utility bills, cleaner environment -- and the manager an incentive payment. This could be structured as follows. Utilities, through the Collaborative, receive 75% of the approved CRA expenditures. If and only if they reach the agreed CRA objectives and or short-term goals they receive an additional 50% of the actual amount of the approved and budgeted expenditures. For those programs where they are actually reducing consumers' energy bills, they could be given an incentive such as part of the savings.

Such a scheme aligns the utilities, the BPU's and the consumers' interests, makes the utilities put some "skin in the game" along with the consumers and releases their creativity to achieve the CRA objectives. Furthermore it focuses attention on the efficiency with which the Collaborative operates and removes / lessens the need for external assistance since the Collaborative, excluding negligence, has a life of seven years. Utilities can now devote internal resources to replace the external resources currently being used, thereby lowering the administrative costs.

In addition, budgets should be made a "contract for performance." If they are overrun then the utility "eats the overrun." If there are surpluses, and providing that the CRA objectives are met, monies can be used on other programs and or shared between consumers and utilities, e.g. utilities retain some of the surplus. Also, budget

flexibility must be allowed in which monies can be switched / transferred between programs, without BPU approval, depending upon program resource requirements / availability.

Recommendation 4 - part two: Deposit all SBC funds collected into a trust fund administered by the BPU, and pay the Collaborative from this fund on a reimbursable basis.

Under this mechanism the utilities would collect the CRA EE&RE money and deposit it in a fund controlled by the BPU. Utilities would claim money from the fund by demonstrating that they had implemented authorized programs, met the CRA goals and objectives and by providing detailed support for the actual and budgeted program and administrative costs.

Such a mechanism:

- Transfers the money to the control of the BPU, allowing the BPU to direct the type of programs upon which the money is spent.
- Avoids the utilities spending the money only on programs, which further their corporate interest.
- Mutes the utility conflict of interest argument and achieves the same benefits as an ISA without the associated cost or delay.
- Allows the BPU to be proactive instead of reactive in the process of auditing the administrative costs of the Collaborative and the utilities.

We note that such a mechanism was rejected by the BPU in its final CRA order.

Recommendation 5—Retain the Collaborative (appropriately reorganized), but restrict its administration and management to the energy efficiency programs.

Immediately, the Collaborative should:

- Develop a long-range plan and measurable long and short-range goals for achieving the CRA objectives.
- Develop new and amend existing programs to achieve the CSFs for each CRA objective.
- Stop all new initiatives, including the evaluation of the RFPs that the Collaborative recently issued, maintaining only the current programs until the long-range plan is developed, new programs developed and / or the current programs amended.
- Replace the existing programs with the resulting new and amended programs.

The structure of the Collaborative needs to be improved as follows:

- Make the Collaborative a legal entity under New Jersey law as a joint venture of the utilities.
- Appoint a Chairperson.
- Provide the Chairperson and the management committee with executive decision making power for the utilities.
- Appoint the BPU Manager of Conservation and Societal Programs as a member of the management committee and provide the resources to support this person.
- Provide in-house staff, probably from one of the utilities, to administer the Collaborative.

Change the processes by:

- Developing a planning system and annual plan to achieve the CRA objectives. This plan should have quantifiable and measurable metrics for effectiveness and efficiency, both long- and short range, tied to the CRA objectives / CSFs, and have specific actions and programs devoted to achieving them.

- Developing budgets, which are the financial expression of the plan, are considered a contract for performance, and contain measurable efficiency metrics.

Recommendation 6—Consider having the BPU assume the responsibility for the renewable energy programs.

Our preferred solution is for the BPU set up a semi autonomous group to administer the Customer Sited Renewable Energy programs (CuSRE).

The CRA objective is to:

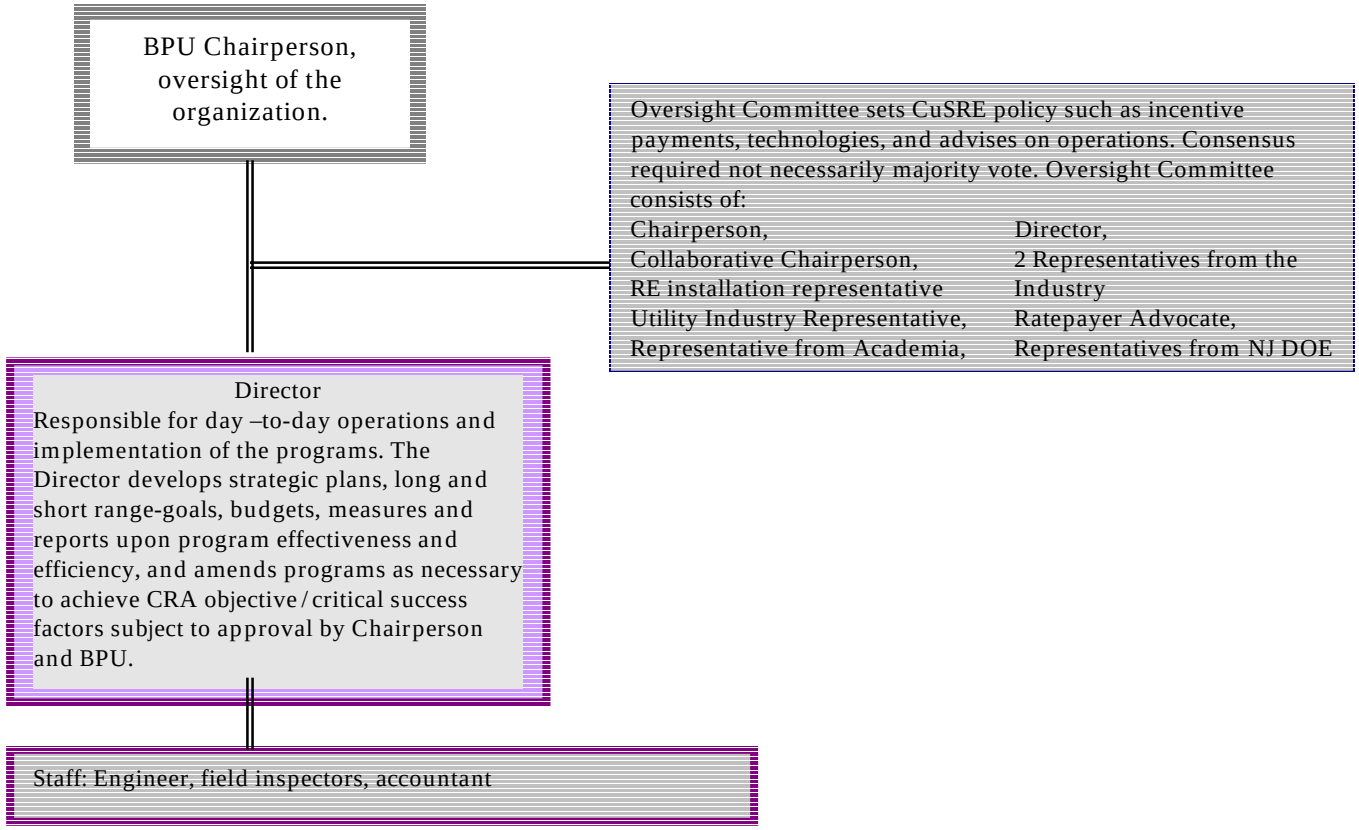
> Develop renewable energy resources and programs indigenous to New Jersey

The Critical Success Factors for which are:

1. Set incentives and consumer costs / benefits based on the real cost of:
   - Existing generation including externalities, i.e. the environmental and health impacts of fossil and nuclear fuels
   - Renewable technology, e.g. including back-up requirements for PVs and Wind Power.

2. Match technologies to New Jersey markets.
   (Nota Bene: Natural Gas Fuels Cells are not a renewable technology.)
3. Adopt only renewable technologies which:
   - Appear commercially competitive and available within the next four to eight years.
   - Have a developing supply chain.
4. Promote competition among suppliers by ensuring a "level playing field" for all industry participants.
5. Promote supporting infrastructure development within New Jersey.
6. Enforce clear interconnect and net metering regulations that facilitate RE utilization.

Organization Chart
Customer Sited Renewable Energy (CUSRE)



Recommendation 6 cont'd—Have the BPU assume the responsibility for the renewable energy programs.

The administration for Customer Sited Renewable Energy programs (CuSRE) should be organized as follows:

Structure

See the organization chart above.

Resources and funding

Funding should be from the SBC on a quarterly basis with monies deposited by utilities into a special account for funding the CuSRE operations. Actual payments for the renewable energy programs would be paid from the funds.

Up to 24% of total EE&RE funds would be spent on renewable energy and 1% deposited to fund CuSRE operations.

Staffing would require probably four staff members:

A financial officer to manage finances, prepare and administer budgets, manage contracts, manage payments and prepare reports,

An engineer to provide technical management on renewable energy contracts and programs and any technical issues barriers that may arise.

An economic development specialist. (Could be shared with the Collaborative Economic Development Specialist)

A bookkeeper and secretary.

Recommendation 7—Amend the definition of administrative costs and improve and use the cost accounting procedures to measure efficiency of program implementation.

Include all the administrative cost portion of contracted out costs as administrative costs and not as contracted out costs. (In the Collaborative's report for CRA administrative costs, designated as Report RA2T, contracted out costs include those which are also administrative costs and should more properly be included as administrative costs, contracted out. Some utilities for instance, undertake the process of energy rebate processing and check issuing, in-house, while others use contractors for this work.)

Develop a common activity based costing system, using the revised administrative cost definitions for cost and responsibility centers, which can automatically produce the revised RA2T report. (Three of the utilities use SAP financial management software that can easily accommodate an activity based accounting system. The other utilities should map their cost centers to this report.)

Set up key performance indicators for efficiency, i.e. for unit cost efficiency, for quality, timeliness, and other levels of service for each type of program. These will complement the effectiveness measures and demonstrate the achievement of the overall goal of market transformation.

Conduct regular (at least quarterly) monitoring of the performance of the CRA programs, such that significant variances from budget are explained, and that the other key performance indicators are computed and significant variances explained. Thus, the monitoring of economy and efficiency will complement the monitoring of program outcomes and effectiveness.

Conduct regular audits and reviews on an individual utility and rolled up basis, to ensure compliance to the definition of administrative costs, that there is consistency of data and cost collection and reporting, as well as safekeeping and availability of historical accounting and operational records since the start of the CRA programs.

Monitor other states and share information where there are similar types of programs, to ensure that New Jersey's EE&RE programs are in the forefront or in line with these.